REMARKS/DISCUSSION OF ISSUES

Upon entry of the present amendment, claims 17-32 are pending in the present application. Claims 17, 21 and 25 are the independent claims. Claims 1-16 have been cancelled without prejudice or disclaimer of their subject matter.

Claim Objections

In the Office Action dated April 1, 2003, claims 4 and 7 were objected to under 37 C.F.R.§ 1.75(c). This objection is moot in view of the present amendment.

Rejection Under 35 USC § 112 ¶ 2

Claims 3,5,6 and 11-16 were rejected under 35 USC § 112 ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the subject matter that which applicants regard as the invention. While these claims have been cancelled, some of their subject matter has been incorporated into newly added claims. As such, these rejections are addressed as necessary.

The specific limitations that served as the bases of the rejections of claims 5, 11, 12, 13, 14-16 as set forth in items 6-11 of page 3 of the Office Action are not included in the newly added claims. As such, these rejections are moot.

However, applicants respectfully traverse the rejection of claim 3 for its inclusion of the term 'low-loss' glass. This limitation is included in newly added claim 18. The Office Action asserts that the term 'low-loss' is a relative term, which is not defined by the claim. Moreover, the Office Action asserts that one of ordinary skill in the art would not be reasonably

apprised of the scope of the invention. Applicants respectfully disagree.

The present application relates to integrated circuits (IC's) that can function at millimeter-wave and microwave frequencies. At these relatively high frequencies, losses can have a deleterious impact on power and performance in general. As such, it is beneficial to include materials in the IC's that aid in mitigating losses. Certainly, one of ordinary skill in the art of high-speed IC's would recognize the meaning and scope of the term 'low-loss' as it relates to a material of the IC. In furtherance to this point, applicants reference U.S. Patent 6,329,702, which includes the disclosure of the use of 'low-loss glass' in a high frequency IC. The disclosure of the '702 patent offers the use of borosilicate glass as a low-loss glass. Clearly, one skilled in the art at the time the present invention was made would have understood the meaning of the term 'low-loss' as it relates to glass in IC's; and the types of materials used to meet this need.

Accordingly, for at least the reasons set forth above, the rejections under 35 U.S.C. § 112, second paragraph are moot.

Rejections Under 35 USC § 102(b)

The Office rejects claims 1-4,8-10 and 14 under 35 USC § 102(b) as being anticipated by the *Calligaro, et al.* (U.S. Patent No. 5,102,822). First, the cancellation of claims 1-4, 8-10 and 14 renders the rejections of these claims moot. As these rejections may apply to any of newly added claims 17-32, applicants' position presented below applies.

Newly added independent claims 17, 21 and 25, and the claims

that depend therefrom are patentable over *Calligaro, et al.* for at least the reasons that follow.

To properly establish a *prima facie* case of anticipation, *all* of the claimed elements must be found in the prior art. It follows, therefore, that if a *single* claimed element is not found in the prior art, a *prima facie* case of anticipation cannot properly be established.

Claims 17 and 21 are drawn to a microwave/millimeter-wave monolithic integrated circuit device, and includes in combination "*... a silicon substrate...*".

Claim 25 is drawn to a method of fabricating a microwave/millimeter-wave monolithic integrated circuit device, and includes in combination "*...providing a silicon substrate...*"

In contrast to that which is set forth in applicants' independent claims, the reference to *Calligaro, et al.* lacks as teaching or suggestion of a silicon substrate in a device, or the providing of a silicon substrate in a method of manufacture.

In fact, the reference to *Calligaro, et al.* specifically recites that materials to which the invention of *Calligaro, et al.* may apply are group III-V materials such as GaAs. The substrate used in the device of the reference is semi-insulating (SI) GaAs, which is within a different realm of semiconductor devices, and is wholly inapplicable to the silicon-based technology of the present application. (Please refer to column 1, lines 17-19; column 3, lines 31-32; and Fig. 2 for support for these assertions.)

Accordingly, the reference to *Calligaro, et al.* lacks the teaching of a silicon substrate, as is claimed, and as the Office Action asserts. Therefore, because the reference to *Calligaro,*

et al. specifically lacks at least one of the limitations of independent claims 17, 21 and 25, these claims and the claims that depend directly or indirectly therefrom are allowable over the applied art. Allowance is earnestly solicited.

Rejections Under 35 U.S.C. § 103(a)

The Office rejects claims 5,6, 11-13 and 15-16 under 35 U.S.C. § 103(a) as being unpatentable over *Calligaro, et al.* in view of applied secondary and tertiary references.

First, the cancellation of claim 5,6, 11-13 and 15-16 renders the rejections of these claims moot. As these rejections may apply to any of newly added claims 17-32, applicants' position presented below applies.

The establishment of a *prima facie* case of obviousness under 35 USC § 103(a) requires that *all* of the elements be found in the prior art. It follows that if a *single* claimed element is not found in the prior art, a *prima facie* case of obviousness cannot be established. Moreover, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is a teaching, suggestion or motivation to do so found in the references relied upon. However, hindsight in never an appropriate motivation for combining references and/or the requisite knowledge available to one having ordinary skill in the art. To this end, relying upon hindsight knowledge of applicants' disclosure when the prior art does not teach nor suggest such knowledge results in the use of the invention as a template for its own reconstruction. This is wholly improper in the determination of patentability.

For the reasons set forth above, and while in no way

conceding as to the propriety of the combinations of references, or that the features of the newly added claims are within the teachings of the applied art, applicants assert that because independent claims 17 and 21 are allowable over the applied art, the claim that depend directly or indirectly therefrom are also allowable. Allowance is earnestly solicited.

Conclusion

In view of the foregoing, Applicant respectfully requests withdrawal of the above noted rejection of record, the allowance of all pending claims, and the holding of this application in condition for allowance.

If any points remain of issue that may best be resolved through a personal or telephonic interview, the Office is respectfully requested to contact the undersigned at the telephone number listed below.

In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact William S. Francos, Esq. (Reg. No. 38,456) at (610) 375-3513 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies to charge payment or credit any overpayment to Deposit Account Number 50-0238 for any additional fees under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

Respectfully submitted on behalf of:
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